

CLAIMS

What is claimed is:

1. The method of obtaining a measure of the volume of cells or particles that comprises the steps of:
 - suspending the cells or particles in a liquid medium, and
 - optically measuring the volume of the liquid that is displaced by the cells or particles as they travel through a measuring volume.
2. The method of claim 1 in which the liquid medium is dyed to be strongly fluorescent and in which the predetermined volume is excited by a light source and the reduction in the emitted fluorescent light due to passage of particles in the predetermined volume is measured to provide a measure of the particle volume.
3. The method of determining the volume of cells or particles that comprises the steps of:
 - forming a suspension of said cells or particles in a liquid medium that is strongly fluorescent,
 - causing the liquid suspension to flow through a light beam that excites a predetermined volume of the liquid suspension whereby it fluoresces and emits light, and
 - obtaining measure of the volume of the cells or particles by measuring the reduction of the emitted light caused by the decrease in volume of the fluorescent liquid in the predetermined volume due to the volume of the cells or particles within the predetermined volume.
4. The method of obtaining a measure of the volume of cells or particles that comprises the steps of:
 - suspending the cells or particles in a liquid medium that is strongly fluorescent,
 - irradiating a predetermined volume of the liquid medium to cause the liquid to fluoresce and emit light, and
 - optically determining a measure of the cell volume by measuring the reduction of the emitted light due to cells or particles present in the predetermined volume.

5. The method of obtaining a measure of the volume of cells or particles that comprises the steps of:

- preparing a liquid medium with a strongly fluorescent dye,
- suspending the cells or particles in the liquid medium,
- flowing the suspension through a volume that is defined by a light beam that excites the fluorescent dye and causes it to emit light, and
- measuring the reduction of the emitted light when a cell or particle travels through said volume.

6. The method of claim 5 including the additional steps of suspending beads of predetermined volume in the liquid medium and obtaining a measure of the reduction of light for beads of various sizes whereby the reduction of light by cells or particles can be correlated to the data.

7. The method of determining the volume of cells or particles that comprises the steps of:

- flowing a liquid medium having a strongly fluorescent dye past a predetermined illuminated volume whereby it emits light or predetermined intensity in the absence of particles or cells of said volume,
- detecting the fluorescent light emitted from said volume whereby when a non- or weakly-fluorescent particle or cell is within said volume, the intensity of the fluorescent light decreases, and
- correlating the decrease in intensity to the volume of the particles or cells.